Final Review Sheet
(CPSC-454 Fall 2017)

Department of Computer Science
California State University, Fullerton

Final Exam Time & Location:

Section 01 Thursday, December 14, 2:30 - 4:20 pm @ CS 110B
Section 02 Tuesday, December 12, 5:00 - 6:50 pm @ CS 102A

Format:

Paper Exam. You are allowed to access at most 3 pages (8.5 in X 11 in) of notes during the exam. Any format of cheating will receive an "F" for this class.

Scope of the Exam:

I. Cloud Computing (around 50%)

1. Definition of Cloud Computing;
2. Virtualization Technologies;
3. Distributed Systems and Distributed Computing;
4. Cluster Computing;
5. Parallel Computing;
6. Data Center;
7. Openstack;
8. Introduction to SDN;
9. Open vSwith and Cloud;
10. VPN Technology.
11. Introduction of Mapreduce
    - The differences of GFS and HDFS
    - Key Features of Ceph
    - What is MapReduce? What are the key components of Mapreduce?
    - What are the main parallelization challenges? How does Mapreduce deal with them?
    - What are the Limitations of MapReduce?

II. Cloud Security (around 35 %)

12. What are the causes of Problems Associated with Cloud Computing?

Illustrate each reason into details.

13. What malicious insiders can do?
14. What malicious insiders can do?
15. What outside attacker can do?
16. What are the big issues in Security and Privacy in Cloud Computing? What are infrastructure security issues? Give example for each type.
17. What is the data life cycle?
18. What are the Key Privacy Concerns about cloud stored data?
19. What are new vulnerabilities & attacks in cloud computing?
20. What are possible solutions to minimize Lack of Trust? Illustrate them.
21. What are possible solutions to minimize Loss of Control? Illustrate them.
22. What are possible solutions to minimize Loss of Control?
23. Questions about the topics and approaches in the research papers about cloud computing security and data privacy.

III. Research Papers and Open Questions (around 15 %)

Sample Questions

1. What are control plane and data plane? (3 points)

2. What is mapreduce? What does mapreduce 'runtime' handle? (4 points)